

What is claimed is:

1. A method for displaying an image in which a halftone is reproduced by a subframe technique of converting a frame into a plurality of subframes, the method comprising the step of determining a lighting pattern that is a combination of on and off of the subframes for each of pixels of a display screen in accordance with a frame data value of a noted pixel, a lighting pattern of the noted pixel in the past frame and a lighting pattern determined for a peripheral pixel that is located in the vicinity of the noted pixel and has the same display color as the noted pixel.
2. A method as recited in claim 1, further comprising the step of referring a lighting pattern of plural peripheral pixels arranged in the directions different from each other with respect to the noted pixel.
3. A method as recited in claim 1, further comprising the steps of:
- determining intensity values of Fourier components of the difference between the light emission waveform indicated by the lighting pattern in the past frame and a target light emission waveform indicated by the frame data value;
- determining intensity values of Fourier components of a light emission distribution error between the peripheral pixel and the noted pixel; and
- determining a lighting pattern of the noted pixel so that the sum of the intensities after being weighted becomes the minimum.

4. A method as recited in claim 3, wherein the weight of the Fourier components having a frequency above a flicker frequency is set to zero among the Fourier components of the difference between the light emission waveform indicated by the lighting pattern in the past frame and the target light emission waveform indicated by the frame data value.

5. A method as recited in claim 3, wherein the step of determining a lighting pattern uses only the components corresponding to the period twice the pixel pitch among the Fourier components of the light emission distribution error between the peripheral pixel and the noted pixel.

6. A method as recited in claim 1, wherein the lighting pattern of the noted pixel is determined so that the difference between the lighting pattern in the past frame and the lighting pattern determined for the peripheral pixel becomes the minimum value.

7. A method as recited in claim 6, wherein the lighting pattern of the noted pixel is determined so that the sum of the distance to the lighting pattern of the past frame and the distance to the lighting pattern determined for the peripheral pixel becomes the minimum when a lighting pattern is regarded as a coordinate value.

8. A method as recited in claim 1, further comprising the steps of noting only a part of the plural subframes so as to refer the lighting pattern of the past frame and the lighting pattern determined for the peripheral pixel and determining the lighting pattern of the noted pixel so that the difference to the referred lighting pattern becomes the minimum value.

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9. A method as recited in claim 8, comprising the steps of noting only a part of the plural subframes so as to refer the lighting pattern of the past frame and the lighting pattern determined for the peripheral pixel, obtaining the lighting pattern as a coordinate value, and determining the lighting pattern of the noted pixel so that the sum of the distance to the lighting pattern in the past frame and the distance to the lighting pattern determined for the peripheral pixel becomes the minimum value.

10. An image display device that can reproduce a halftone by a subframe technique in which a frame is converted into plural subframes, the device comprising:
a memory having a capacity of at least one frame for memorizing lighting pattern data for determining a selection of on or off of pixels of a display screen; and
a lighting pattern determining circuit for receiving input of frame data of the n-th frame, receiving input of lighting pattern data of the noted pixel in the (n-1)th frame and the lighting pattern data of the n-th frame determined for a peripheral pixel that is located in the vicinity of the noted pixel and has the same display color as the noted pixel and for outputting data that is associated with a combination of input data values in advance as the lighting pattern data of the noted pixel in the n-th frame.

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